

LL1 Grant Application



Submit completed application to:

Lauren Sampedro

lauren.sampedro@vlawmo.org



Applicant Information:

Name:	Royce and Volatiana Wiens
Address:	3784 Tessier Trail
City/Township, State, Zip:	Vadnais Heights, MN 55127
Phone:	651-771-5589
Email:	rvwiens@yahoo.com

Project Summary:

PROJECT TYPE:

ESTIMATED TOTAL PROJECT COST (\$)	Ph 1 - \$13,675 \$10,503.73 Ph 2 - \$16,075 \$12,520.07 Ph 3 - \$13,310 \$10,601.77
AMOUNT REQUESTED (\$5,000 reg, \$7,500 curb cut)	\$5,000 for each of the 3 phases
EXPECTED PROJECT COMPLETION (Month, Year)	Ph 1 - Sept 2024 Ph 2 - Sept 2025 Ph 3 - Sept 2026

- Raingarden/Infiltration Basin: Curb cut
- Raingarden/Infiltration Basin: Regular
- Shoreline/Streambank Stabilization and/or Restoration
- Filtration
- Other

If other, please describe the proposed project: N/A

Project Background:

Describe the project location. Does it connect to a lake, stream, ditch, or wetland in VLAWMO? What issues will be addressed with this project?	See attached supplementary information
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Project Background: Continued

<p>Describe how your project will support the goals of the Landscape Level 1 Grant Program.</p> <p>(See LL1 policy)</p>	<p>See attached supplementary information</p>
<p>Briefly describe the planned installation and maintenance activities for your project.</p>	<p>See attached supplementary information</p>

Project Specifications:

<p>TOTAL PROPERTY AREA (Acres)</p>	<p>.26</p>	<p>Total PROJECT SIZE (Sq Ft)</p>	<p>675 sq ft</p>
<p>IMPERVIOUS (HARD) AREA DRAINING TO PROJECT (Sq Ft):</p>	<p>1,472</p>	<p>PERVIOUS (GRASSY, NON-PAVEMENT) AREA DRAINING TO PROJECT (Sq Ft):</p>	<p>2,178</p>
<p>DEPTH OF PRACTICE (In): <i>Provide if project includes infiltration/filtration</i></p>	<p>6-9"</p>	<p>BOTTOM SURFACE AREA (Sq Ft): <i>Provide if project includes infiltration/filtration</i></p>	<p>600</p>

Required Attachments:

- ⇒ Detailed drawing or plan of the proposed project. If project is complex, VLAWMO may require project final designs to be completed by a qualified professional or engineer. Drawing must include project dimensions that enable VLAWMO staff to model the project for estimated water quality benefits.
- ⇒ At least 2 bids for construction of proposed project.
- ⇒ Detailed project budget estimate with itemized materials and costs that equal the total project cost.

**LL1 Grant Application
Supplement for
3784 Tessier Trail**

Project Summary

Estimated Total Project Cost Notes:

- The project costs for each phase is based on the ~~highest~~ **Lowest** estimated cost for each phase.
- The Phase 1 cost includes the design fee.

Project Background

1. Describe the Project Location:

- 3784 Tessier Trail is located to the east of Vadnais Lake and north of Koehler Road.

2. Does it connect to a lake, stream, ditch, or wetland in VLAWMO?

- It is part of the Sucker-Vadnais Sub watershed.

3. What issues will be addressed with this project?

- Capturing and infiltrating rainwater runoff from our impervious surfaces including the roof, sidewalk, and site (understanding that turf is semi-impervious) with the front, back, and side yard rain gardens.
- Capturing and infiltrating rainwater runoff from adjacent property (380 Tessier Circle) to the north with both the front and back yard rain gardens.
- Capturing and infiltrating rainwater runoff from our impervious driveway with the new trench drain, which will drain to the side rain garden (phase 3).
- Reducing the need for utilizing treated water to water typical turf grass by reducing the turf grass area, overseeding the turf grass area at the front and side yards with fescue grasses that requires less water, and utilizing native plants in the proposed planting areas that are appropriate to the soil condition, daylight access, and natural water availability.

- Reducing the cooling needs for our home over the summer by incorporating VLAWMO approved trees on the east and west sides of house.

4. Describe how your project will support the goals of the Landscape Level 1 Grant Program?

- It will improve water quality by reducing both the rate and volume of storm water runoff to adjacent properties and to the street (specifically Tessier Trail), which ultimately benefits the water quality of Vadnais Lake. This will reduce the impact on the local storm sewer system.
- It will preserve and enhance the local groundwater by infiltrating more of the the water that falls on site on our property. The native plants and trees that will also play an important role in absorbing local rainwater runoff and using it for plant growth and transpiration.
- Stormwater reuse for irrigation by directing house and driveway runoff to the proposed rain gardens. As part of this project, we may also incorporate rain barrels to store rainwater for later use on site.

5. Briefly describe the planned installation and maintenance activities for your project:

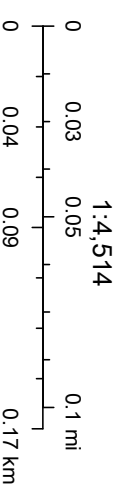
- **Phase 1 Installation:** The chosen vendor will complete the work shown in the attached drawing and written scope by September of 2024. The new dry creek bed will help direct site drainage to the proposed rain garden, following the existing contours.
- **Phase 1 Maintenance:** The planned rock and wood mulch will reduce the turf area, further reducing the need to use treated water for irrigation. These material choices will reduce the need for maintenance. We are also diligent in weeding and so we will catch any weeds that do pop up. We are intentionally keeping the size of the work to a reasonable size so that we can easily maintain it. As we work with the chosen vendor on the final design, we will make every effort to create a low maintenance project. We are locating the plants so that they will be get a nice drink with any rain. In case there is less rain as plants are getting established, they will be close to a water source so that we can make sure they receive the water they need.

- **Phase 2 Installation:** The chosen vendor will complete the work shown in the attached drawing and written scope by September of 2025. It will include all work in the front yard including the rain garden and the crabapple garden. The planned crabapple tree in the front is the only non-native plant, but it is included as an acceptable alternative on the VLAWMO list. The rain garden in the front yard will also be located at the natural low spot to minimize the amount of earthwork required. The crabapple garden will be located in an area where the turf grass is currently having its challenges to be established.
- **Phase 2 Maintenance:** The combination of plants will create a more eco-friendly front yard that will also reduce required maintenance. Like the backyard project, the scope of planting work is smaller to make it easier to maintain. We are intentionally incorporating hard edges to create a clean appearance that will be easier to maintain. As mentioned earlier, the reduced turf area that incorporates the fescue grass will reduce the need for watering and create a more sustainable environment.
- **Phase 3 Installation:** The chosen vendor will complete the work shown in the attached drawing and written scope by September of 2026. This will be the smallest of the 3 phases, but will be just as important. This phase will incorporate a trench drain that will pick up runoff from the driveway and direct that to the side rain garden. This rain garden will also be taking runoff from the south side of the garage roof as well as the area to the north that slopes towards it.
- **Phase 3 Maintenance:** A good portion of the remaining Phase 3 areas will be finished with a rock mulch and native plants that will reduce the maintenance needs for these areas while creating a more pollinator friendly environment that will provide fruit that we can use in the home. Like the other 2 phases, the non-turf area is not that large and should reduce the maintenance and water required when compared with the current use for this area that is 100% turf.

6. Project Size

- **Phase 1** – 675 sf
- **Phase 2** – approximately 2,600 sf including area to be overseeded with fescue grass including the right of way.
- **Phase 3** – approximately 710 sf including area to be overseeded with fescue grass including the right of way.

LL1 2023-06 Wiens Dry Creek Bed & Raingarden



3784 Tessier Trail

VLAWMO – Landscape Level 1 Grant

Landscape Design Plan – 1 plan with 3 phases

Phase 1 – Summer 2024 – Backyard Scope

- Provides 1 Backyard Rain Garden (450 sf) as shown on drawing at the low point of the backyard to collect rainwater runoff with the following features:
 - Provide stone edging
 - Wood mulch
 - 1 River Birch Tree (*Betula nigra*)
 - 4 Swamp Milkweed – (*Asclepias incarnata*)
 - 5 Pennsylvania Sedge – (*Carex pennsylvanica*)
 - 4 Red Columbine – (*Aquilegia canadensis*)
- Provide 225 sf river rock dry creek bed as shown in gray to east of existing stone mulch that wraps around the deck and patio area)
- Provide 150 sf wood mulch border to define edge of swale as shown on drawing to east of dry creek bed
 - Provide and install 2 River Birch trees as shown in this mulch border
 - Provide black plastic edging to prevent mulch from getting into adjacent areas.

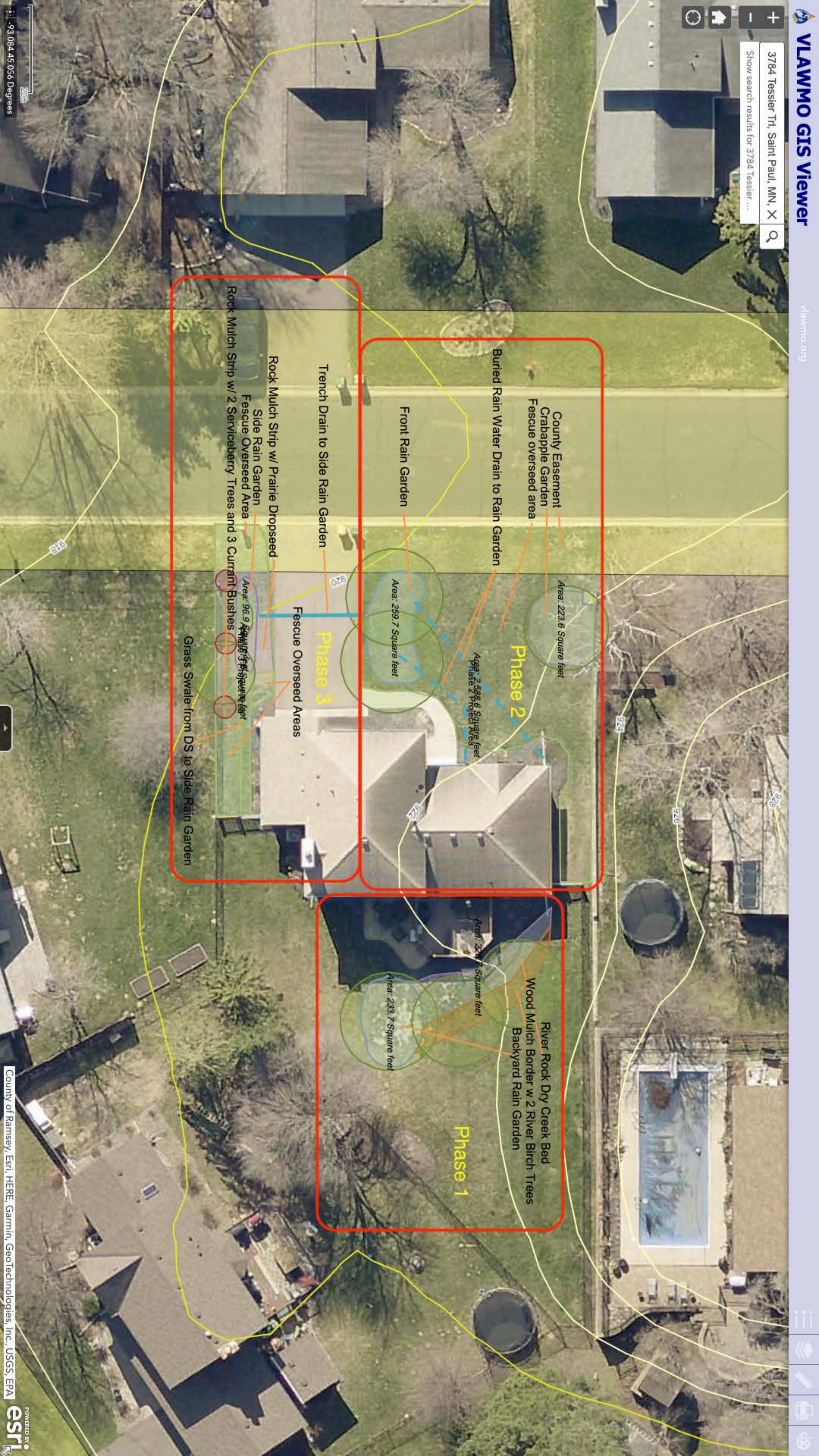
Phase 2 – Summer 2025 – Front Yard Scope

- Remove underground plastic corrugated pipe and pop-up water drain in front of house and install new piping and two pop up drains from the 2 downspouts in front of the house and install 2 new in-ground catch basins with buried pvc piping (approx. 70 lf total – see dashed blue line) and pop up drains in the new rain garden.
- Provide 1 Front Rain Garden (255 sf) as shown on drawing with the following:
 - Provide stone edging
 - Wood mulch
 - 2 River Birch Trees (*Betula nigra*)
 - 4 Swamp Milkweed – (*Asclepias incarnata*)
 - 3 Cardinal Flowers – (*Lobelia cardinalis*)
 - 6 Pennsylvania Sedge – (*Carex pennsylvanica*)
 - 4 Red Columbine – (*Aquilegia canadensis*)
- Provide Crabapple Garden – 225 sf
 - 1 Snowdrift Crabapple tree (*Malus 'Snowdrift'*)
 - 9 Pennsylvania Sedge – (*Carex pennsylvanica*)
 - 7 Creeping Phlox – (*Phlox subulata*)
 - Stone edging in front and plastic edging at property line

- Overseed existing grass with Fescue blend after removing weeds

Phase 3 – Summer 2026 – South Side Yard Scope

- Maintain 5'w grass strip from driveway to the south gate.
 - o Overseed existing grass with Fescue blend after removing weeds at the end of the project.
- Provide and install 1 rain barrel at downspout at SE corner of garage with screens at existing downspout locations with overflow directed to new grass swale referenced below.
- Provide 45 sf grass swale from overflow referenced above to the side rain garden referenced below.
- Install 1 trench drain (Approx. 20' long – see blue line) across asphalt driveway sloped to drain to new rain garden described below. Trench drain must have sufficient capacity to support vehicle traffic.
- Provide 1 Side Rain Garden (90 sf) as shown on drawing with the following:
 - o Wood mulch
 - o Hard edge
 - o 4 Indian Grass plants (*Sorghastrum nutans*) along the center
 - o 5 Nodding onion plants (*Allium Cernum*) around perimeter alternating with 5 swamp milkweed plants (*Asciepias incarnata*)
- Provide 3' wide rock (90 sf total) mulch strip between driveway and side rain garden sloped to rain garden.
 - o Provide 5 Priarie Dropseed (*Sporobolus heterolepis*) along the center of this rock mulch strip.
- Provide 5' wide rock mulch strip (140 sf total) between side rain garden and fence with the following plants:
 - o Provide and install 2 Serviceberry trees (*Amelanchier* spp.) at 20' spacing
 - o Provide and install 3 Currant plants (*Ribes* spp) as shown on the drawing (red circles). N



Area: 223.6 Square feet

Phase 2

Area: 259.6 Square feet
Phase 2 Project Area

Area: 259.7 Square feet

Front Rain Garden

Buried Rain Water Drain to Rain Garden

County Easement
Crabapple Garden
Fescue overseed area

Phase 3

Fescue Overseed Areas

Trench Drain to Side Rain Garden

Rock Mulch Strip w/ Prairie Droppseed

Side Rain Garden
Fescue Overseed Area

Rock Mulch Strip w/ 2 Serviceberry Trees and 3 Currant Bushes

Grass Swale from DS to Side Rain Garden

River Rock Dry Creek Bed
Wood Mulch Border w 2 River Birch Trees
Backyard Rain Garden

Phase 1

Area: 220.7 Square feet

Area: 233.7 Square feet



Customer

Royce Wiens
3784 Tessier Trl
Vadnais Heights, MN 55127

Project

Wiens-3784 Tessier Trl
3784 Tessier Trl
Vadnais Heights, MN 55127

Contract

September 18, 2023
Page 1 of 6

Home Ph: **Mobile Ph:** 651-392-9251
Work Ph: **Email:** rvwiens@yahoo.com

Designer/Sales Rep:
Angela Cesar

Project Name: Preliminary Budget - Grant Submission Rev.1

Quantity Item Description

Design Fee

Design Fees

Sub-Total: \$750.00



Phase 1

- 1,389.00 Bed Prep - Sod Stripping/Disposal - SF
- 12.00 Excavation for Rain Garden - CY
- 1.00 Disposal Hauling Fee - Yard Waste/Mulch - LOAD
- 58.00 Chilton 4" x 4" x Random Edging - Installed - LF
- 235.00 Shredded Hardwood Mulch - Installed 3" - SF
Barricade Pre-Emergent To Be Applied Prior To Installation Of New Mulch Material At Approx. 3" Overall Depth.
- 1.00 Betula nigra - River Birch - Installed - 2" BB
- 4.00 Asclepias incarnata - Swamp Milkweed - #1 CONT.

Materials with delivery only. No planting labor.
- 5.00 Carex pensylvanica - Pennsylvania Sedge - #1 CONT.

Materials with delivery only. No planting labor.
- 4.00 Aquilegia canadensis - Red Columbine - #1 CONT.

Materials with delivery only. No planting labor.
- 225.00 Bed Prep - Sod Stripping/Disposal - SF
- 4.00 Excavation - CY
- 1.00 Disposal Hauling Fee - Yard Waste/Mulch - LOAD
- 225.00 Hand Grading - SF
- 225.00 Washed River Rock 1 1/2 - Installed 3" - SF
Installation Of New Rock Material At Approx. 3" Overall Depth.
- 225.00 Landscape Fabric - Installed - SF
5 oz, 6'x250' roll
- 150.00 Shredded Hardwood Mulch - Installed 3" - SF
Barricade Pre-Emergent To Be Applied Prior To Installation Of New Mulch Material At Approx. 3" Overall Depth.
- 80.00 Poly Landscape Edging - Installed - LF
- 2.00 Betula nigra - River Birch - Installed - 2" BB

Sub-Total: \$12,925.00

Grand Total: \$13,675.00

ADDRESS

2383 Pilot Knob Rd.
St. Paul, MN 55120

PHONE

East Metro 651-203-3000
NW Metro 763-422-0188
SW Metro 952-881-2296

- Landscape Design-Build
- Landscape Care & Maintenance
- Irrigation
- Outdoor Living
- Poolscales
- Greenscapes
- Hardscapes
- Perennial & Native Gardens
- Waterscapes
- Outdoor Kitchens & Fireplaces

WEBSITE

southviewdesign.com



Scope of Work - "Phase 1 Ballpark"

Royce Wiens
3784 Tessier Trail
Vadnais Heights, MN 55127
Phone:
rvwiens@yahoo.com



412 Harding St. N.E.
Minneapolis, MN 55413

Notes & Unresolved Issues

-This estimate was done off of a very rough plan without detailed specs. A detailed design will be needed to get a more exact estimate.

OTHERS TO: Provide and install 2 rain barrels at corner downspouts with screens at existing downspout locations with overflow directed to new swales.

Field Scope and Assumptions

-Excavate 1 Backyard Rain Garden (235 sf) to an initial depth of 8". Final depth of 6". Rip bottom of rain garden and amend with 1" of compost. Total sq. ft. of rain garden plus sloped sides assumed to be 450 sf. Excavation assumed to be 11 yards in this area.

Provide stone edging, assumed at 75 lin ft.

Wood mulch, assumed at 450 sf

1 River Birch Tree (Betula nigra)

4 Swamp Milkweed – (Asclepias incarnata)

5 Pennsylvania Sedge – (Carex pennsylvanica)

4 Red Columbine – (Aquilegia canadensis)

Provide 225 sf river rock dry creek bed as shown in gray to east of existing stone mulch that wraps around the deck and patio area)

Provide 150 sf wood mulch border to define edge of swale as shown on drawing to east of dry creek bed

Provide and install 2 River Birch trees as shown in this mulch border

Provide black plastic edging to prevent mulch from getting into adjacent areas. - Assumes 80 ft

Estimate - "Phase 1 Ballpark"

Demolition and Preparation

QTY	UNIT SIZE	DESCRIPTION	PRICE	PRICE TOTAL
1 ea.		Design and Planning Fee	\$500.00	\$500.00
11 yd.		Sod and Soil Disposal (Rain Garden)	\$62.84	\$691.24
3.5 yd.		Sod and Soil Disposal (Dry Creek and Mulch)	\$62.84	\$219.94
total material costs				\$911.18
total labor costs				\$2,890.00
Demolition and Preparation			Total	\$3,801.18

Landscape Finishes

QTY	UNIT SIZE	DESCRIPTION	PRICE	PRICE TOTAL
3	20' Strip	Standard Vinyl Edging (includes 4 stakes + 1 connector)	\$15.75	\$47.25
75	lin. ft.	Chilton 4" x 4" Snapped Stone Edging	\$6.59	\$494.12
2	yd.	Green Loon Soil Conditioner G (Rain Garden)	\$75.35	\$150.70
4.5	yd.	Shredded Hardwood Bark Mulch (Rain Garden)	\$57.54	\$258.93
1	ea.	Mulch delivery	\$175.00	\$175.00
3	yd.	3/4 River Rock Gravel	\$83.36	\$250.08
1	3'X100'roll	4 oz. Woven Needle Punch Fabric	\$60.42	\$60.42
1	ea.	Gravel Delivery	\$150.00	\$150.00
total material costs				\$1,586.51
total labor costs				\$4,930.00
Landscape Finishes			Total	\$6,516.51

Fuel Charge

Fuel pricing is approximate for estimating purposes.

Crew will update fuel costs to reflect average Twin Cities fuel pricing at the time of invoicing.

DEISEL	GAS COST	PRICE TOTAL
\$5.20	\$3.50	\$186.04

GRAND TOTAL	\$10,503.73
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Plant List*included in grand total

Quantity	Size	Botanical Name	Unit Price	Total Price
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Trees

3	#20	River Birch Tree (Betula nigra)	\$252.00	\$756.00
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Perennials

			\$0.00	\$0.00
4		Swamp Milkweed – (Asclepias incarnata)	\$12.60	\$50.40
5		Pennsylvania Sedge – (Carex pennsylvanica)	\$12.60	\$63.00
4		Red Columbine – (Aquilegia canadensis)	\$12.60	\$50.40

Total:

\$919.80

Project Information

Calculator Version: Version 4: July 2020
Project Name: Wiens Dry Creek Bed and Raingarden
User Name / Company Name:
Date: 10/3/2023
Project Description:
Construction Permit?: No

Site Information

Retention Requirement (inches): 1.1
Site's Zip Code: 55127
Annual Rainfall (inches): 31.8
Phosphorus EMC (mg/l): 0.3
TSS EMC (mg/l): 54.5

Total Site Area

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed			0.5		0.5
			Impervious Area (acres)		0.28
			Total Area (acres)		0.78

Site Areas Routed to BMPs

Land Cover	A Soils (acres)	B Soils (acres)	C Soils (acres)	D Soils (acres)	Total (acres)
Forest/Open Space - Undisturbed, protected forest/open space or reforested land					0
Managed Turf - disturbed, graded for yards or other turf to be mowed/managed			0.05		0.05
			Impervious Area (acres)		0.08
			Total Area (acres)		0.13

Summary Information

Performance Goal Requirement

Performance goal volume retention requirement:	1118	ft ³
Volume removed by BMPs towards performance goal:	319	ft ³
Percent volume removed towards performance goal	29	%

Annual Volume and Pollutant Load Reductions

Post development annual runoff volume	0.8968	acre-ft
Annual runoff volume removed by BMPs:	0.1891	acre-ft
Percent annual runoff volume removed:	21	%

Post development annual particulate P load:	0.4025	lbs
Annual particulate P removed by BMPs:	0.085	lbs
Post development annual dissolved P load:	0.329	lbs
Annual dissolved P removed by BMPs:	0.07	lbs
Total P removed by BMPs	0.155	lbs
Percent annual total phosphorus removed:	21	%

Post development annual TSS load:	132.9	lbs
Annual TSS removed by BMPs:	28	lbs
Percent annual TSS removed:	21	%

BMP Summary

Performance Goal Summary

BMP Name	BMP Volume Capacity (ft ³)	Volume Recieved (ft ³)	Volume Retained (ft ³)	Volume Outflow (ft ³)	Percent Retained (%)
1 - Bioretention basin (w/o underdrain)	319	319	319	1	100

Annual Volume Summary

BMP Name	Volume From Direct Watershed (acre-ft)	Volume From Upstream BMPs (acre-ft)	Volume Retained (acre-ft)	Volume outflow (acre-ft)	Percent Retained (%)
1 - Bioretention basin (w/o underdrain)	0.2075	0	0.1892	0.0183	91

Particulate Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (w/o underdrain)	0.0931	0	0.0849	0.0082	91

Dissolved Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (w/o underdrain)	0.0762	0	0.0695	0.0067	91

Total Phosphorus Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (w/o underdrain)	0.1693	0	0.1544	0.0149	91

TSS Summary

BMP Name	Load From Direct Watershed (lbs)	Load From Upstream BMPs (lbs)	Load Retained (lbs)	Outflow Load (lbs)	Percent Retained (%)
1 - Bioretention basin (w/o underdrain)	30.76	0	28.04	2.72	91

BMP Schematic